Overcoming “newness” with ordered legitimacy creation

Michelle Renton*

Victoria Management School, Victoria University of Wellington,
PO Box 600, Wellington, New Zealand 6140.
E-mail: michelle.renton@vuw.ac.nz

Urs Daellenbach

Victoria Management School, Victoria University of Wellington,
PO Box 600, Wellington, New Zealand 6140.
E-mail: urs.daellenbach@vuw.ac.nz

Sally Davenport

Victoria Management School, Victoria University of Wellington,
PO Box 600, Wellington, New Zealand 6140.
E-mail: sally.davenport@vuw.ac.nz

* Corresponding author

Abstract: High-tech start-ups face a range of challenges as they seek to establish themselves and grow. A critical resource in overcoming some of these challenges is organisational legitimacy. Our research involving interviews with 12 life sciences companies suggested that relational, market and investment legitimacies were particularly important to survival and success and that the companies used various approaches to signal these legitimacies. Different paths to legitimacy formation are also assessed. At times, it was found that signals of one type of legitimacy were not congruent with other types of legitimacy that were also needed. Implications of such misaligned signalling are considered.

Keywords: organisational legitimacies; high-tech start-ups; investment; relationships; markets.

1 Introduction

High tech start-up entrepreneurial firms in New Zealand (NZ) are characteristically innovative in developing and commercialising new products. Most, however, face difficulties in accessing the variety of key resources necessary to enable new products to reach the market place, due in part to under developed capital markets in the small home economy as well as the distance of NZ from centres of collaboration, research, development, finance and markets. To overcome these issues, high tech start-up organisations in NZ must find ways to signal their legitimacy and credibility to potential partners and investors. Signalling legitimacy has long been understood to be important for new organisations, assisting them to overcome the liabilities of newness associated with being a start up venture.

Choi and Shepard (2005) suggest that '*entrepreneurs might be well advised to invest disproportionate emphasis on the cognitive legitimacy problem of new ventures,… [monitor] how key stakeholders perceive the values and goals of the new venture, and attempt to improve affective congruence with them.*'[1] Focussing on legitimacy for established firms, Dacin, Oliver and Roy (2007)[2] propose that firms can gain legitimacy by aligning themselves with appropriate strategic partners. In examining the legitimacy aspects of strategic alliances, these authors highlight that firms need five forms of legitimacy; market, social, relational, investment and alliance legitimacy, and that strategic alliances entered into by firms act as a signal of these to the wider competitive environment. Here, in this exploratory study, we use Dacin, Oliver and Roy's 2007 typology to show how NZ based high tech firms attempt to gain legitimacy and credibility as they progress from start-up to product launch and sales. The research in this paper is also underpinned by signalling theory to help explain how organisations attempt to attract strategic partners and then signal to the wider market place their increased legitimacy in other areas as a result of these partnerships.

2 Strategic Theory of the Firm and Strategic Alliances

The strategic theory of the firm (STF) assumes that the firm is a bundle of productive resources and capabilities. Resources are inputs into the firm's operations that are used to produce products or services[3]. They can be either tangible/tradeable (e.g. patents, capital equipment and skilled human resources) or intangible/non-tradeable (eg. reputation, legitimacy, culture, firm-specific know-how and values). A capability or competence is the ability to perform a task or activity and thus often has a process orientation[4].

Using the STF approach, organisational outcomes are inherently linked to how firms accumulate new, or make better use of existing resources (tangible and intangible) and capabilities in order to add value to their existing products and services and to develop new high value added products. Traditionally, firms generated most value from the exploitation of tangible resources such as physical, financial and human capitals. However, in more knowledge intensive firms, it is likely that intellectual capital (eg. both explicit and tacit knowledge, innovation models)[5] symbolic capital (eg. identity and brands)[6] and social capital (e.g. relationships and networks)[7] are vital to generating sustainable value.

Firms lacking in needed resources and capabilities must set about finding ways to accumulate them if they are to grow and develop sustainable competitive advantages. Such joint value creation hinges upon a range of trading arrangements including direct selling, distribution agreements, outsourcing and investment financing. Legitimacies with different stakeholders are one such resource and can be essential for organization survival.[8] The issue of attaining, maintaining and defending organizational legitimacy confronts all organizations and in particular those who face threats to their survival.[9] Within a social system, legitimacy has been broadly defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate".[10] Attaining legitimacies may thus enable firms to reduce barriers to trade, liabilities of newness and liabilities of foreignness by providing reassurance to key stakeholders that the firm is likely to meet key performance expectations.

Dacin, Oliver and Roy propose that a specific function of strategic alliances can be to provide or enhance the perceived legitimacy of a firm. They argue that this legitimacy function affects the ability of firms to gain economic and competitive ends, profoundly impacting on their likelihood of attracting resources, potential partners and creating opportunities for market growth and sustainable competitive advantage.[11] This impact they argue, is the result of the social, symbolic and signalling characteristics of strategic alliances and they use this to form a typology which explains the roles that strategic alliances have in creating legitimacy for firms. This typology includes five legitimacy roles, four of which are of interest in this paper, these are market legitimacy, relational legitimacy, investment legitimacy, and social legitimacy. The fifth legitimacy role relates specifically to alliance formation and includes legitimising the structure and make up of new forms of alliances. Alliance legitimacy is of interest from the institutional viewpoint from which Dacin, Oliver and Roy are writing, but as the relational aspect of alliance legitimacy is encompassed in their relational legitimacy, it is of less relevance here. In New Zealand, new venture resource accumulation activities do not as frequently involve formal alliances at this early stage and if they do, then their alliance structures do not tend to deviate from norms such as equity sharing, joint ventures, or licensing agreements..

A table depicting this typology of the legitimacy roles, adapted from Dacin, Oliver and Roy's 2007 paper[12] is presented here with each one of the legitimacy roles further explained later in the findings section.

Table 1 The legitimating roles of strategic alliances; a proposed framework.

	Market Legitimacy	*Relational Legitimacy*	*Social Legitimacy*	*Investment Legitimacy*
Definition	Conveys rights and qualifications to conduct business in a particular market	Conveys worthiness to be a partner	Conveys conformity to societal rules and expectations	Conveys worthiness of the business activity
Motive for entering the arrangement	To increase legitimacy in a geographical or product market.	To increase legitimacy as a good partner	To increase legitimacy as a socially responsible firm.	To increase the legitimacy of the business activity.
Legitimacy source	Partner's legitimacy in the market.	Relationship with partner.	Partner's social image.	Partner's support and confidence in the business activity and future potential.
Target(s)	Customers; Distributors; Suppliers; Governments	Customers; Distributors; Suppliers; Competitors or complementors	Customers; Local communities; Public interest groups	Venture capitalists; Potential investors, Board members, managers, shareholders
Economic or competitive benefit	Entrance into or continued existence in a market. Attracting new customers.	Development of additional interorganisational ties	Possession of a socially responsible firm image.	Endorsement of the business activity and future potential.

Of interest to this paper is the way in which high tech new ventures seek to gain increased legitimacy and use signalling practices to firstly attract new partners, and secondly, to signal into the broader market place their increased legitimacy resulting from these strategic partnerships. To do this, a more formal inclusion of signalling theory is seen as useful to explore how firms indicate to potential partners how benefits mitigate any perceived risks, as well as how they signal their increased legitimacy resulting from these partnerships.

3 Signalling Theory

Institutional theory suggests that for new ventures, particularly those innovating with new technologies, a liability of newness exists. Legitimacy for such organisations can be created through the use of secondary and potentially symbolic sources of information.[13] Because asymmetry of information exists between those inside the company and those outside of it, these sources act as signals, conveying information about the current and future potential of the organisation to outsiders. Signalling theory suggests that signals stay honest because of the high costs to a firm's reputation and relationships should receivers perceive the signals to be dishonest. The use of signalling by new ventures is well studied. The literature suggests that venture capitalists use a rich set of tools to evaluate potential investments including the signals sent about value and commitment to a venture through the level of personal investment a founder holds,[14] and the association of a company with top tier venture capitalist[15] and other alliance partners[16] sends a strong signal to the market place. At the time of IPO, signals including percentage of inside /outside directors, underwriter reputation, corporate governance structures and experience of top management teams[17], clarity, intensity and consistency of strategy and communication of a prospector/ defender strategy[18] all send signals into the investment market. Davenport's research has found that signalling practices need to be perceived as truthful, and that while discursive ambiguity may convey advantages to some organisations, for new ventures, she argues that firms need to manage discursive ambiguity carefully or risk long term loss of reputation should receivers perceive an organisation's signals to be only partly true or wholly untrue.[19]

Overall, this combination of signalling theory perspectives and the need for multiple legitimacies suggests a useful approach to understanding key aspects influencing the development of new, high tech venture firms. Specifically we explore the way that these NZ based firms use signalling practices to both attract new partners and trading arrangements, and then signal to the wider market any increased legitimacy from these. To do this, we undertook a series of semi-structured interviews with the founders/CEO's of 12 high tech venture firms within New Zealand.

4 Methodology

Background information was sourced for 21 organisations active in the NZ life sciences sector. These organisations represent a cross section of biotechnology related firms in NZ and were working in diverse areas including, pharmaceuticals, nutrition, medical therapeutics, medical research products, blood products, medical devices and clean fuels. Some of these organisations were still in research and development phases while others were fully commercialised and trading successfully in global markets. Such differences provided insights into the sequence of legitimacy development as well as the impact of prior decisions on subsequent efforts to signal and develop specific types of legitimacy. In-depth interviews with CEOs / founders from 12 of the 21 organisations were undertaken to explore how the firms developed and grew. In every case they needed to enter into trading and partnering arrangements to perform any number of functions necessary to the successful operations of their business. These included finding investment, development and clinical trial partners, as well as finding partners to assist with regulatory approval, and the supply, manufacturing, production and distribution functions of the business.

By adopting Dacin, Oliver and Roy's typology, the findings set out below discuss the ways in which these 12 high tech new ventures sought to gain increased legitimacy and how they used signalling practices to firstly attract partners, and secondly, to signal into the broader market place their increased legitimacy resulting from the formation of these arrangements.

5 Findings

Market Legitimacy

The object of building up market legitimacies is for firms to show authorities, potential partners, investors and customers that they have the qualifications and abilities to take part in the marketplace.[20] New ventures face liabilities of newness in a market place, and in the case of exporting firms, may also face liabilities of foreignness. For one of our new exporting ventures, the lack of legitimacy in new and emerging markets was beginning to critically impact growth and development: '*[Our founding partner's] network in one market is exceptional, but critical to our business is the danger of just having our one main client, we need to diversify.*' This was seen as a major issue to be overcome by attracting the right partners to drive future growth in new markets.

In building up their market legitimacy, firms attempt to overcome their inexperience, lack of positive reputation or previous success within a market. Hygeine factors relating to market legitimacy include gaining approval to operate in the market place, such as FDA approval and utilising manufacturing processes which are certified within the industry, for example, Good Manufacturing Processes or GMP[21].

For one of the very new and under-resourced organisations, there was a reliance on their partner's certification to signal their market legitimacy to customers. The founders of this company were very aware, however, that this reliance was risky and that by taking this approach they could ultimately damage their own credibility and legitimacy in the market; '*We hide behind the fact that we fall into the system of the supplier. The freezing works*[22] *has very highly documented processes and we're a few pages in their system, but if someone who was a [product] purchaser came and audited our system in its entirety, we would fail.*' Thus, they were aware that they needed to develop processing systems that met industry standards.

Most of the companies included in our sample worked hard to increase their market legitimacy through signalling practices such as being aligned with world renowned experts to enhance their own reputations, '*We certainly push the fact that we've got internationally known scientists behind us. One particular product development is directly from a publication by one of our founders, and people are really impressed when they hear who's behind it. They ask, why has this small company in New Zealand got all these things, how did we get a licence for that? And I say, well, [X] is on our Scientific Advisory Board and they say – aha!*' The presence of the scientific advisory board also sends a useful signal to help overcome perceptions of inexperience, as does ensuring that production practices meet not only baseline requirements set by authorities, but also provided a source of competitive advantage by meeting and at times exceeding the ever more exacting standards of clients. '*New Zealand standards have no bearing on what we do here, it's the standards of our clients. We get audited by these clients once a year and they want to drive the standard up.*'

Relational Legitimacy

The need behind relational legitimacy is to develop the perception that an organisation would make a good partner. While most companies wish to attract good partners, relational legitimacy infers that firms need to show that they will be good partners themselves. Within NZ's biotechnology industry, firms typically require partners to help with some of their development, production and/or distribution functions, and without these partnerships young businesses may founder. Creating relational legitimacy is therefore key to the ongoing development of ventures, particularly start ups, and firms work to increase the perception that they have '*complementarity in providing skills, or know-how, or expertise in the area or activity sought by the alliance, receptiveness to knowledge trading as well as trustworthiness and integrity.*'[23]

Key to developing strong relationships is the building of knowledge about the potential partners, as well as a sense of trust between them. For one of our companies, a typical attitude coming from those looking to work with them, is, that '*People really matter*,' The founder goes on to say, *'We are aware that partners are wanting to make sure we have similar views to the world as them and that when things go wrong we can work it out .'* In this case, time spent with potential partners showing them around the facilities, and helping them understand the business assists in building up partner company's knowledge before they become involved. Even so, the founder states that decisions to work with partners are largely people based *'about 50% of it is technology [the rest is], can I work with this guy? Do I trust him?*'

For some of our organisations, their reliance on historical ties and previous experience brings with it a degree of relational legitimacy which goes on to form the basis of important partner relationships. *'We've got a company working with us now who are keen to expand into Europe; they are people who I've worked for, so we know they're good. They're impressed with our products and they know of the scientists who are backing us so they think we've got something there.'*

For a further company, new to the Asian market and without the benefit of former ties, a key way of signalling their worthiness to multiple potential partners in the Asian region is to show that their approach to doing business had much in common with the approach used in these markets, that they were happy with taking a discussion based, flexible approach to agreements; '*In the Asian and Indian way of doing business the contract doesn't really mean that much, and basically everything is pretty flexible. We are quite reasonably well suited to that point. Like if we agree on a price and a year and a half later we get to market and it doesn't work, then it gets forgotten and we sit down and have a good conversation about what it needs to be.'* In other markets, the same company is keen to show they are expert, fair and good to work with for their joint venture partners; *'For some co-development in Europe, our partner's expertise is manufacturing, ours is clinical, so we agreed to do the clinical trials and they do the manufacturing and we agreed to pay the joint venture and share the profits. They seem happy with that, so that's the sort of thing we are trying to do.'*

Not all companies have taken a strongly relationship building approach all of the time. For one working in a completely new field, a key to signalling relational legitimacy was to achieve outcomes very quickly, employ an aggressive communication strategy around these and then take advantage of being first in the field to produce the technological development and attract important industry players as partners; '*Because we got to proof points really, really fast, and communicating what we achieved is a key part of the strategy, we told people about it and before we knew it we had major players ringing us up. We moved forward quickly to sign an MOU with our first partner, who has revenue of about \$2 billion US a year, and horizontal channel opportunities. We're the only* *company [using this material base] in the world that they've signed an MOU with.'* Whether this approach provides the company with key competitive advantages in developing their business remains to be seen.

Investment Legitimacy

Dacin, Oliver and Roy, suggest that novel types of business initiatives by newer firms may be specially likely to lack investment legitimacy.[24] For new start ups, particularly in New Zealand where capital markets remain small, finding investment partners is key to survival in both the short and long term, and was one of the most important issues faced by many of our companies. Being associated with a well known investor or venture capitalist company signals to the markets the worthiness of the company, as one of our companies has found to its benefit. *'We approached a US based VC, one of the biggest venture capital groups in this area and they invested in [us]. If you've got [these VCs] on board people take notice, you always get the first meeting.'*

However, as Ferrary and Granovetter (2009)[25] writing on the role of VC firms in Silicon Valley suggest, a negative signal is sent if a start up either raises funding from an unknown VC firm, or worse, does not raise any venture capital. *'We've spoken to major offshore venture capitalists over a 2 year period. We've had a lot of interest from people saying 'yeah, we would look at co-investing', but they require a New Zealand lead, and there's no New Zealand lead.'* For this company, their inability to secure funding from New Zealand based capital investors had had the effect of sending a negative signal to offshore VC companies, and potentially to other joint venture partners; *'the risk profile for them is not that we haven't proven ourselves, It's an execution capability– do we have the capability to do it?'*

A final point in signalling investment legitimacy, for one company still in the development phase and faced with continuously raising funds, using lean management techniques had been a useful way of signalling careful and prudent use of investor money. For this company the approach had helped it keep a positive relationship with investors. '*I think the investors like it when they come here and they see that the money is not spent on an auspicious place, until you go into in our clean room and then you know where the money's spent. The money's spent entirely on where it matters, which is the production unit and very little on offices and where we are. We are here in South Auckland and can afford it.'*

Social Legitimacy

One of the environments in which Dacin, Oliver and Roy suggest firms need to develop their social legitimacy is when they operate in industries where social and public issues are highly salient.[26] Within our sample of organisations, two companies in particular meet this condition, and signalling their social legitimacy was important to ensure that challenges on these public issues could be either forestalled or overcome. For one of our organisations, involved in the potentially sensitive practice of xeno-transplantation, social legtimacy was signalled by undergoing the scrutiny of many committees and bodies required to gain regulatory approval. While this scrutiny delayed the development of the company's product, it was seen as absolutely critical to its long term success. *'It was an important approval because it involved multiple committees and experts all over the* *world – scientists, regulators, MTA consultations by Med Safe, and the Centre of Disease Control in the US as well. I think this programme has been scrutinised by more people than anybody else over the last few years. [Now] with the regulatory approval and the scrutiny from international reviewers, it is recognised that we are leaders and that what we do has been quality controlled and scrutinised. So while you're going through that, it is a difficult process, but when you've gone through that, that's a huge plus – and that's the way to look at it.'*

The second organisation for whom signalling social legitimacy is an issue, chooses to position itself as an environmental champion located at the '*nexus between the significant issues of energy and water use'*, and this organisation is particularly keen to legitimise its standing on these important social issues. The company has however, previously come under fire for not answering questions relating to the net energy efficiency of their processes, and particularly over whether more energy was used to produce its product, than was generated by its processes.[27] Rather than addressing these issues directly, the organisation, whose founder has a portfolio of companies working in green based technologies, prefers to focus on signalling social legitimacy across them all; '*[One company] was chosen by the Financial Times as being one of five companies likely to save the world and got the judges choice last year. [Another company] has been written up by The Times as one of the top 5 climate change and sustainability websites in the world and the Wall Street Journal use it as a resource every day.'* Ultimately to convey the focal company's social legitimacy, he prefers to keep a close relationship to the authorities and government departments in his most preferred market; '*the US Government had actually ticked [our base material] as a result of a big research programme, 'so I think in the US the way it's panning out is to have that government tick, it's actually the key, and then markets will open up… Even being a non-US corporation and getting two US Department of Energy funded projects is actually pretty significant in its own right.'*

6 Discussion

While the analysis above clearly indicates how different legitimacies were crucial to organisational survival and success, initial analysis within each company suggests typical sequences in the development of legitimacies for NZ start-ups:

Those companies in the R & D phase clearly had a greater focus on creating investment legitimacy than did the commercialised companies. In fact, for R & D companies creating investment legitimacy to find funding was a relentless primary focus. Of these companies, only one (company 8), was able to leverage off the relational legitimacy created from being associated with a top tier venture capitalist, enabling positive signals to be sent to the wider market place. Two further companies made great efforts to build up knowledge and trust in their partner relationships (companies 5 and 12) and therefore build up their relational legitimacy, while one company (11) had struggled to gain investment partners even though it had taken a more aggressive approach in signing an MOU with an industry leader without detailed knowledge of them.

With the exception of one organisation, (company 2), the commercialised companies were self funded by owners, private shareholders and bank debt. While many of the commercialised ventures remain small, their CEO/founders did leverage off their existing relational legitimacy to develop market and investment opportunities. For companies (1) and (3) historical ties and therefore pre-existing relational legitimacy were important to the founders decision to begin the business, while for companies (4), (9) and (10), building key relationships was seen as being of primary importance to the business.

There were occurrences of mis-signalling within this group however, for example, companies (2) and (6) both had under-developed production practices and were coat-tailing off the certification practices of suppliers. Company (6) also had an expert founder who had been useful in developing their key market but who had been unable to develop relationships in other markets, and company (10) wanted to convey to their US based customers that they were being supplied locally, but had not as yet developed distribution centres close to market. For these companies, mis-signalling appears to have been the result of a lack in strategic understanding about how signals could potentially be perceived by key stakeholders, their chosen market places and how they affect the firm's building of relational, investment and market legitimacy.

Table 2: Order of legitimacy sought by new ventures

	Date formed	*Commercialised or R & D, Revenue (Million)*	*Order of 1st Legitimacy*
Company 1	1996	C, $1-.5	R, M,
Company 2	2002	C, $5.5 - $6.	I (NZX) M, R
Company 3	2006	C, $35	R, M
Company 4	2002	C, $30-$40	R, M
Company 5	2004	R&D, minimal revenue	R, I(ASX) M, S
Company 6	2007	> $1	R, M, I.
Company 7	2001	R & D, minimal revenue	I (NZX), M, R
Company 8	2005	R &D, minimal revenue	I (VC), R, M
Company 9	2003	C, $2	R, M,
Company 10	2008	C, <$1	R, M,I
Company 11	2005	R & D, minimal revenue	I, M, R
Company 12	2007	R & D, minimal revenue	R, M, I

7 Concluding comments

For our sample of companies, there is a strong need for partnering relationships to fulfil many of the fundamental business functions of the firm. All of the companies we talked to stood to gain in at least three of the four areas of legitimacy that strategic partnerships could provide, and we therefore found Dacin, Oliver and Roy's 2007 typology to be a useful tool in describing how strategic alliances could provide legitimacy for organisations. However it was also apparent that some of our companies used signalling practices that were potentially risky, and these findings raise the question of why new ventures are willing to risk damaging their long term credibility by using signalling practices that are unclear, only partly true, or by aligning themselves with organisations of whom they have little knowledge, and no prior relationship. It is interesting to explore the reasoning behind companies taking these potentially risky approaches to signalling. From our brief exploratory work here, it appears that the companies more likely to take a risky approach either 1) did not have strong relational legitimacy or 2) lacked a strategic understanding of how signalling practices are perceived by key stakeholders and how they could affect their company's perceived legitimacy. In contrast, those who had either strong relational legitimacy, or who presented signals to the wider market in a more strategic manner, appeared to gain in relational, market or investment legitimacy. For companies with a commercialised product positive signalling bought about by strong relational legitimacy appears to have helped facilitate greater access to new markets as well as greater resources from investment partners. These findings suggest that future research could be useful in investigating whether relational legitimacy could be considered a cornerstone type of legitimacy for new venture start-ups, and whether it is fundamental to the success of new firms to establish strong relational legitimacy before moving to investment, market or social legitimacy.

References and Notes

[1] Choi, R., and D.A. Shepard (2005) Stakeholder Perceptions of Age and other Dimensions of Newness. *Journal of Management*, 31 (4) 573-596

[2] Dacin, M.T., C. Oliver, & J-P Roy. (2007) The Legitimacy of Strategic Alliances: An Institutional Perspective. *Strategic Management Journal*, 28: 169-187.

[3] Wernerfelt, B. (1984) A Resource-Based View of the Firm, *Strategic Management Journal,* 5171-180. Phelan, S. and P. Lewin (2000) Arriving at a Strategic Theory of the firm, *International Journal of Management Reviews*, 2 (4) 305-323.

[4] Teece, D., G., Pisano and A. Shuen (1997) Dynamic Capabilities and Strategic Management*, Strategic Management Journal*, 18, 509-533.

[5] Teece, D. (2000) Managing Intellectual Capital : *Organizational, Strategic, and Policy Dimensions*, Oxford University Press, Oxford, Bollen. Vergauwen, L.,P. and S. Schneiders (2005) Linking Intellectual Capital and Intellectual Property to Company Performance*., Management Decision*, 4 1161-185.

[6] Gergs, H-J. (2003) Economic, Social; and Symbolic Capital: New Aspects for the Development of a Sociological Theory of the Market, *International Studies of Management & Organisation,* 33, 22-48. Bourdieu, P. (1986) The Forms of Capital, in J. Richardson (ed). *Handbook of Theory of Research for the Sociology of Education*, Greenwood: New York, 241-258. Fuller, T. and Y. Tian (2006) Social and Symbolic Capital and Responsible Entrepreneurship: An Empirical Investigation of SME Narratives, *Journal of Business Ethics*, 67, 287-304. Bliege Bird, R. and E. Smith (2005) Signalling Theory, Strategic Interaction and Symbolic Capital, *Current Anthropology*, 46, 221-248.

[7] Nahapiet, J. and S. Goshal (1988) Social Capital, Intellectual Capital and the Organisational Advantage, *Academy of Management Review*, 23, 242-266. Powell, W.,K. Koput and L. Smith-Doerr (1996) Interorganisational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology, *Administrative Science Quarterly*, 41, 16-14. Murray, F. (2004) The Role of Academic Inventors in Entrepreneurial Firms: Sharing the Laboratory Life, *Research Policy*, 33, 643-659.

[8] Meyer, J.W. and B. Rowan, (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, 83(2): 340-363. Baum, J.A.C. & C. Oliver (1991). Institutional Linkages and Organizational Mortality. *Administrative Science Quarterly,* 36 (2): 187-218. Suchman, M.C. (1995) Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review,* 20(3): 571-610.

[9] Hamilton, E.A. 2006. An Exploration of the Relationship Between Loss of Legitimacy and the Sudden Death of Organizations. *Group Organization Management,* 31: 327-358.

[10] Suchman, M.C. (1995) Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review,* 20(3):. Deephouse, D.L. and M.C., Suchman, (2008). Legitimacy in Organizational Institutionalism. In R. Greenwood, C. Oliver, K. Sahlin & R. Suddaby (Eds.), *The Sage Handbook of Organizational Institutionalism*: 49-77. LA; London; New Delhi; Singapore: SAGE.

[11] Dacin, M.T., C. Oliver, & J-P Roy. (2007) The Legitimacy of Strategic Alliances: p. 183.

[12] Ibid p.173.

[13] Deutsch, Y., and T.W. Ross. (2003) You are Known by the Directors You Keep: Reputable Directors as a Signalling Mechanism for Young Firms. *Management Science*, 49, 8, 1003-1017.

[14] Busenitz, L.W.; Fiet, J.O.; and D.D. Moesel.(2005) Signaling in Venture Capitalist – New Venture Team Funding Decisions: Does it Indicate Long-Term Venture Outcomes. *Entrepreneurship: Theory and Practice*, 29.1 p1-12. Ferrary, M., and M. Granovetter. (2009) The Role of Venture Capital Firms in Silicon Valley's Complex Innovation Network. *Economy and Society* 38, 2 p. 326-359

[15] Ferrary, M., and M. Granovetter. (2009) p. 326-359

[16] Sanders, W.G.; and S. Boivie, (2004)Sorting Things Out: Valuations of New Firms in Uncertain Markets. *Strategic Management Journal*, 25/2, 167

[17] Williams, D. R., W.J., Duncan, and P.M.,Ginter, (2010). Testing a Model of Signals in the IPO Offer Process. *Small Business Economics*, 34: 445-463.

[18] Gao, H., J. Darroch and D.M.A., McGregor. Signalling Corporate Strategy in IPO Communication: A Study of Biotechnology IPOs on the NASDAQ. (2008) *Journal of Business Communication,* 45, 1, pp 3-30

[19] Davenport, S. (2007) Innovation for Growth: Signalling Potential Productivity in Hi-Tech Start-Ups. *The Proceedings of the XVIII ISPIM Conference*, Warsaw, Poland, 17-20 June 2007

[20] Dacin, M.T., C. Oliver, & J-P Roy. (2007) p.172-174.

[21] Good Manufacturing Processes or 'GMP' is part of a quality system used in the pharmaceuticals, medical devices, diagnostics and food processing industries.

[22] Abattoir.

[23] Dacin, M.T., C. Oliver, & J-P Roy. (2007) p.175

[24] Ibid p.174-176.

[25] Ferrary, M., and M. Granovetter. (2009) p. 326-359

[26] Dacin, M.T., C. Oliver, & J-P Roy. (2007) p.176-177

[27] Hunter,T. (2008) Information Tide Out on Algae Fuel Float, *Sunday Star Times*, 23 November 2008. Wellington.